What is claimed is:

1.   An image processing system comprising:

sensing means for sensing a sensing region onto which a predetermined image is

5   projected and for outputting sensing information;

luminance distribution analysis means for analyzing a luminance distribution in

a projection area included in the sensing region, based on the sensing information;

storage means for storing angle correction data in which ratio of average

luminance values for a plurality of different regions in the projection area is associated

10   with derivation coordinates for deriving coordinates of the projection area, and also for

storing coordinate data indicating the derivation coordinates for the projection area; and

image signal correction means for correcting image signals based on the

coordinate data so that a distortion in the projected image is corrected,

wherein the luminance distribution analysis means refers to the angle correction

15   data depending on the luminance distribution in the projection area to correct the

derivation coordinates in the coordinate data based on the angle correction data.

2.   The image processing system as defined in claim 1, further comprising:

ambient information analysis means for determining the projection area and a

20   screen region included in the sensing region based on the luminance distribution

according to the sensing information when a rectangular image is to be projected on a

rectangular screen, and for updating four derivation coordinates in the coordinate data

based on positional information of each vertex in the determined projection area and

screen region and derivation coordinate information of four corners in the screen region.

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3.   The image processing system as defined in claim 2, further comprising:

environment analysis means for determining a lighter state or a darker state

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based on the luminance information according to the sensing information, the lighter state being a state lighter than a predetermined state and the darker state being a state darker than the predetermined state,

wherein in the lighter state, the ambient information analysis means updates the derivation coordinates in the coordinate data, and in the darker state, the luminance distribution analysis means updates the derivation coordinates in the coordinate data.

4.   An image processing system comprising:

a sensing section which senses a sensing region onto which a predetermined image is projected and for outputting sensing information;

a luminance distribution analysis section which analyzes a luminance distribution in a projection area included in the sensing region, based on the sensing information;

a storage section which stores angle correction data in which ratio of average luminance values for a plurality of different regions in the projection area is associated with derivation coordinates for deriving coordinates of the projection area, and also for storing coordinate data indicating the derivation coordinates for the projection area; and

an image signal correction section which corrects image signals based on the coordinate data so that a distortion in the projected image is corrected,

wherein the luminance distribution analysis section refers to the angle correction data depending on the luminance distribution in the projection area to correct the derivation coordinates in the coordinate data based on the angle correction data.

5.   A projector comprising:

sensing means for sensing a sensing region onto which a predetermined image is projected and for outputting sensing information;

luminance distribution analysis means for analyzing a luminance distribution in

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a projection area included in the sensing region, based on the sensing information;

storage means for storing angle correction data in which ratio of average luminance values for a plurality of different regions in the projection area is associated with derivation coordinates for deriving coordinates of the projection area, and also for

5 storing coordinate data indicating the derivation coordinates for the projection area; and

image signal correction means for correcting image signals based on the coordinate data so that a distortion in the projected image is corrected; and

image projection means for projecting an image based on the corrected image signals,

10 wherein the luminance distribution analysis means refers to the angle correction data depending on the luminance distribution in the projection area to correct the derivation coordinates in the coordinate data based on the angle correction data.

6.   A projector comprising:

15 a sensing section which senses a sensing region onto which a predetermined image is projected and for outputting sensing information;

a luminance distribution analysis section which analyzes a luminance distribution in a projection area included in the sensing region, based on the sensing information;

20 a storage section which stores angle correction data in which ratio of average luminance values for a plurality of different regions in the projection area is associated with derivation coordinates for deriving coordinates of the projection area, and also for storing coordinate data indicating the derivation coordinates for the projection area; and

an image signal correction section which corrects image signals based on the

25 coordinate data so that a distortion in the projected image is corrected; and

an image projection section which projects an image based on the corrected image signals,

wherein the luminance distribution analysis section refers to the angle correction data depending on the luminance distribution in the projection area to correct the derivation coordinates in the coordinate data based on the angle correction data.

5   7.   A computer-readable program for causing a computer to function as:

sensing control means for causing sensing means to sense a sensing region onto which a predetermined image is projected and for outputting sensing information;

luminance distribution analysis means for analyzing a luminance distribution in a projection area included in the sensing region, based on the sensing information;

10   storage control means for storing region angle correction data in which ratio of average luminance values for a plurality of different regions in the projection area is associated with derivation coordinates for deriving coordinates of the projection area at a predetermined storage, and also for storing coordinate data indicating the derivation coordinates for the projection area at the predetermined storage; and

15   image signal correction means for correcting image signals based on the coordinate data so that a distortion in the projected image is corrected,

wherein the luminance distribution analysis means refers to the angle correction data depending on the luminance distribution in the projection area to correct the derivation coordinates in the coordinate data based on the angle correction data.

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8.   A computer-readable information storage medium storing the program as defined in claim 7.

9.   An image processing method comprising:

25   sensing a sensing region onto which a predetermined image is projected and outputting sensing information;

analyzing a luminance distribution in a projection area included in the sensing

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region, based on the sensing information;

referring angle correction data in which ratio of average luminance values for a plurality of different regions in the projection area is associated with derivation coordinates for deriving coordinates of the projection area;

5 correcting the derivation coordinates in coordinate data indicating the derivation coordinates for the projection area based on the angle correction data; and

correcting image signals based on the coordinate data so that a distortion in the projected image is corrected.

10 10. The image processing method as defined in claim 9, further comprising:

determining the projection area and a screen region included in the sensing region based on the luminance distribution according to the sensing information when a rectangular image is to be projected on a rectangular screen; and

updating four derivation coordinates in the coordinate data based on positional 15 information of each vertex in the determined projection area and screen region and derivation coordinate information of four corners in the screen region.

11. The image processing method as defined in claim 10, further comprising:

20 determining a lighter state or a darker state based on the luminance information according to the sensing information;

in the lighter state, updating four derivation coordinates in the coordinate data based on the positional information and derivation coordinate information for four corners in the screen region; and

25 in the darker state, analyzing the luminance distribution in the projection area based on the sensing information; referring to the angle correction data depending on the luminance distribution in the projection area, and correcting the derivation coordinates in

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the coordinate data based on the angle correction data.